20. A nucleic acid as claimed in claim 19, wherein the nucleic acid is a DNA or RNA.

21. A nucleic acid as claimed in claim 20, wherein the nucleic acid is a double-stranded DNA.

22. A nucleic acid as claimed in claim 19, wherein the nucleic acid is a DNA having a nucleic acid sequence as depicted in SEQ ID NO:12 from position 58 to 1977.

23. A nucleic acid as claimed in claim 22, wherein the nucleic acid contains one or more noncoding sequences and/or a polyA sequence.

24. A nucleic acid as claimed in claim 19, wherein the nucleic acid is contained in a vector.

25. A nucleic acid as claimed in claim 24, wherein the nucleic acid is contained in an expression vector.

26. A nucleic acid as claimed in claim 24, wherein the nucleic acid is contained in a vector which is effective in gene therapy.

27. A process for preparing a nucleic acid which encodes a human deadenylating nuclease (DAN) having an amino acid sequence as depicted in SEQ ID NO: 11 or a functional variant thereof or a fragment thereof having at least 8 nucleotides, said process comprising chemically synthesizing said nucleic acid or isolating said nucleic acid from a gene library using a probe.

28. A polypeptide having an amino acid sequence as depicted in SEQ ID NO: 11 or a functional variant thereof, and fragments thereof having at least 6 amino acids.

29. A process for preparing a polypeptide having an amino acid sequence as depicted in SEQ ID NO:11 or a functional variant thereof, and fragments thereof having at least 6 amino acids, said process comprising expressing a nucleic acid of claim 19 in a suitable host cell.

30. An antibody directed against a polypeptide as claimed in claim 28.

31. A process for preparing an antibody as claimed in claim 30, said process comprising immunizing a mammal with a polypeptide as claimed in claim 28 and optionally isolating the resulting antibody.

32. A pharmaceutical composition comprising a nucleic acid as claimed in claim 19 or a polypeptide as claimed in claim 28 and, optionally, pharmaceutically acceptable additives and/or adjuvants.

33. A process for producing a pharmaceutical for treating cancer, an autoimmune disease, Alzheimer's disease, an allergy, arthrosis, atherosclerosis, osteoporosis, an acute or chronic infectious disease, or diabetes, or for influencing the metabolism of a cell, said process comprising formulating a nucleic acid as claimed in claim 19, a polypeptide as claimed in claim 28, or an antibody as claimed in claim 30 together with a pharmaceutically acceptable additive and/or adjuvant.

34. The process of claim 33, wherein the autoimmune disease is multiple sclerosis or rheumatoid arthritis; the allergy is neurodermatitis, a type I allergy, or a type IV allergy; or the cell metabolism is associated with immunosuppression or transplantation.

35. A diagnostic agent which comprises a nucleic acid as claimed in claim 19, a polypeptide as claimed in claim 28, or an antibody as claimed in claim 30 and, optionally, suitable additives and/or adjuvants.

36. A process for producing a diagnostic agent for diagnosing cancer, an

autoimmune disease, Alzheimer's disease, an allergy, arthrosis, atherosclerosis, osteoporosis, an acute or chronic infectious disease, or diabetes, or for analyzing the metabolism of a cell, said process comprising adding a pharmaceutically acceptable excipient to a nucleic acid as claimed in claim 19, a polypeptide as claimed in claim 28, or an antibody as claimed in claim 30.

37. The process of claim 36, wherein the autoimmune disease is multiple sclerosis or rheumatoid arthritis; the allergy is neurodermatitis, a type I allergy, or a type IV allergy; or the cell metabolism is associated with immune status or transplantation status.

38. A test for identifying functional interactors, comprising a nucleic acid as claimed in claim 19, a polypeptide as claimed in claim 28, or an antibody as claimed in claim 30 and, optionally, suitable additives and/or adjuvants.

39. A process for identifying functional interactors of DAN, said process comprising contacting a sample with a nucleic acid as claimed in claim 19 or a polypeptide as claimed in claim 28, and isolating said interactor.

40. A process of finding variants of human DAN, said process comprising screening a gene library with a nucleic acid as claimed in claim 19 and isolating nucleic